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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/762,290

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Michael M. Ramarge

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EXAMINER

PHAN, THIEM D

ART UNIT

PAPER NUMBER

3729

DATE MAILED: 10/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/762,290

Applicant(s)

RAMARGE ET AL.

Examiner

Tim Phan

Art Unit

3729

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-22 and 33-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8-22 and 33-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>12/16/04</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicants' election without traverse of Group II, Claims 8-22, filed on 9/18/06, is acknowledged.

The Restriction mailed on 7/17/06 has been carefully reviewed and is held to be proper. Moreover Applicants did not distinctly and specifically point out any error in the Restriction Requirement. Accordingly, Claims 1-7 and 23-32 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Groups, there being no allowable generic or linking claim.

The Restriction filed on 7/17/06 is hereby **made Final**.

Applicants have cancelled these nonelected claims (1-7 & 23-32) and added dependent claims 33-39.

An Office Action on the merits of Claims 8-22 and 33-39 now follows.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 3729

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 8, 9, 12, 14-17, 33, 36 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doone (US 5,218,508).

With regard to claim 8, Doone teaches a process of making electrical surge arrester/diverter (Col. 6, lines 34+), comprising:

- providing an electrical module assembly (Fig. 1, 1) including at least one metal oxide varistor (MOV) disk (Fig. 1, 2) to which a reinforcing structure (Fig. 1, 6) has been applied;
- wrapping the electrical module assembly with shrink film (Col. 6, line 50);
- compacting the wrapped electrical module assembly by heating the shrink film (Col. 6, line 51) such that the shrink film shrinks and applies a compressive force to the electrical module assembly; and
- curing reinforcing structure of the wrapped electrical module assembly at a temperature at which the shrink film no longer applies a compressive force due to its later removal (Col. 6, line 52) as the sealant resin is cured (Fig. 1, 5; col. 51).

With regard to claim 9, Doone teaches that the shrink film is a polymeric mylar film or the like.

With regard to claims 12 and 14, Doone teaches that the temperature at which the

wrapped electrical module assembly is compacted is of a different magnitude than the temperature at which the wrapped electrical module assembly is cured due to different materials between the shrinking tape and the sealant resin (Col. 6, lines 50-52) and due to the later step of removing the shrinking tape, which stops from further shrinking at certain temperature and therefore stops exercising further compressive force to the module.

With regard to claim 15, Doone teaches a process of making electrical surge arrester/diverter including the heating of the shrinking tape and heat curing of the resin, which reads on applicants' claimed invention.

It would be obvious to one of ordinary skill in the art at the time the invention was made to realize that a cooling step is necessary to handle the module after the heating step.

With regard to claim 16, Doone teaches the removal of the shrinking tape (Col. 6, line 52).

With regard to claim 17, Doone teaches a process of making electrical surge arrester/diverter including the heating of the shrinking tape and heat curing of the resin, which reads on applicants' claimed invention.

It is mere matter of design choice to remove the shrinking tape and cure the electrical module without the shrink tape since it is known in the art that the shrink tape stops shrinking further at certain temperature and it appears that the invention would perform equally well with

the shrink tape and sealant resin being cured simultaneously then having the shrink tape removed without further heating.

With regard to claim 33, Doone teaches that the wrapping of the electrical module assembly with shrink film comprises attaching shrink film (Col. 6, line 50) to the electrical module assembly.

With regard to claim 36, Doone teaches that the wrapping of the electrical module assembly with shrink film (Col. 6, line 50) includes the securing the wrapped shrink film to the electrical module assembly due to heating.

With regard to claim 37, Doone teaches that the compacting of the wrapped electrical module assembly includes the heating (Col. 6, lines 50 & 51) of the shrink film such that the shrink film shrinks and applies a radially compressive force to the electrical module assembly.

4. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doone in view of Mabbott (US 5,842,096).

With regard to claims 10 and 11, Doone teaches a process of making electrical surge arrester/diverter including the heating of the shrinking tape and heat curing of the resin (Col. 6, lines 50 & 51), which reads on applicants' claimed invention.

Mabbott teaches a method of printing color image onto a surface with the application of

shrinking tape with the characteristics of film shrinkage at 170 degrees Celsius for 30 minutes (Col. 7, lines 27 & 28) as Kaladex 2000, a most preferred material.

It would be obvious to one of ordinary skill in the art at the time the invention was made to combine the two teachings by applying the shrinking tape with characteristics, as taught by Mabbott and not its general structure, to the process of making electrical surge arrester/diverter with shrinking tape as taught by Doone in order to facilitate manufacturing process due to its preferred quality.

5. Claims 13, 18-22, 34, 35 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doone in view of Kester et al (US 6,008,975).

With regard to claims 13, 34, 35 and 39, Doone teaches a process of making electrical surge arrester/diverter including the application of the shrinking tape to cover the sealant resin (Col. 6, lines 50 & 51), which reads on applicants' claimed invention.

Kester et al teach a method of making a self-compressive surge arrester module with a spiral tape (Fig. 4, 28) wrapping around the module from one end to the other at constant pressure.

It would be obvious to one of ordinary skill in the art at the time the invention was made to combine the two teachings by applying the wrapping tape, as taught by Mabbott and not its general structure, to the process of making electrical surge arrester/diverter with shrinking tape as taught by Doone in order to cover completely the sealant resin .

With regard to claim 18, Doone teaches a process of making electrical surge arrester/diverter including the application of the shrinking tape to cover the sealant resin (Col. 6, lines 50 & 51), which reads on applicants' claimed invention.

Kester et al teach a method of making a self-compressive surge arrester module with a reinforcing structure (Fig. 4, 24) over the sealant resin (Fig.4, 25) and around the module assembly (Fig. 4, 10).

It would be obvious to one of ordinary skill in the art at the time the invention was made to combine the two teachings by applying the reinforcing structure, as taught by Mabbott, to the process of making electrical surge arrester/diverter with shrinking tape as taught by Doone in order to strengthen the electrical module assembly.

With regard to claim 19, Kester et al teach that the compressing the electrical module assembly comprises compressing the electrical module assembly using pressure of 250 pounds or more or approximately 0 to 1500 psi (Col. 7, lines 30-32).

With regard to claim 20, Kester et al teach that the preparing of the electrical module assembly comprises heating the electrical module assembly to a surface temperature of approximately 60 degrees Celsius (Col. 8, lines 52 & 53).

With regard to claim 21, Kester et al teach that the reinforcing structure (Fig. 4, 24) is a pre-impregnated fiber composite.

With regard to claim 22, Kester et al teach the maintaining of the electrical module's compression through curing of the reinforcing structure (Col. 7, lines 11-18).

6. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Doone in view of Avdeenko et al (US 4,298,900).

Doone teaches a process of making electrical surge arrester/diverter including the heating of the shrinking tape and heat curing of the resin (Col. 6, lines 50 & 51), which reads on applicants' claimed invention.

Avdeenko et al teach a process of making overvoltage protective device (Figs. 6-8) with a step of axially compressing the electrical module assembly (Fig. 6, 50) and maintaining the axial compression of the electrical module assembly through curing (Fig. 7, 48) of the reinforcing structure in order to have an improved operational reliability.

It would be obvious to one of ordinary skill in the art at the time the invention was made to combine the two teachings by applying the axial compression and curing of the reinforcing structure, as taught by Avdeenko et al, to the process of making electrical surge arrester/diverter with shrinking tape as taught by Doone in order to have an improved operational reliability.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tim Phan whose telephone number is 571-272-4568. The examiner can normally be reached on M - F, 9AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tim Phan
Examiner
Art Unit 3729

tp
October 10, 2006



**A. DEXTER TUGBANG
PRIMARY EXAMINER**